

SECTION 11204 – ANSI PROGRESSIVE CAVITY PUMPS

PART 1 -- GENERAL

1.2 WORK OF THIS SECTION

- A. The WORK of this Section includes providing **ANSI** progressive cavity pumps with horizontal electric motors and appurtenances mounted on a base-plate.

1.2 RELATED SECTIONS

- A. The WORK of the following Section applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

- 1. Section 11175 Pumps, General

1.3 SPECIFICATIONS AND STANDARDS

- A. The WORK of this Section shall comply with the codes indicated in Section 11175 and shall include the following:

- 1. AGMA 6010-E Standard for Spur, Helical, Herringbone, and Bevel Enclosed Drives
 - 2. AGMA 6019-E Gear Motors Using Spur, Helical, Herringbone, Straight Bevel, or Spiral Bevel Gears

- 3. **ANSI** American National Standards Institute, Inc.

1.4 OWNER'S MANUAL

- A. In addition to the requirements of Section 11175, the following shall be submitted in compliance with Section 01300:

- 1. Certificates that the rotor and stator hardness comply with the indicated requirements.

1.5 SERVICES OF MANUFACTURER

- A. Services of the manufacturer shall be provided in accordance with Section 11175 and as follows:

- 1. **Inspection, Startup, and Field Adjustment:** An authorized service representative of the manufacturer shall visit the site for not less than [] days.
 - 2. **Instruction of OWNER'S Personnel:** The authorized service representative shall instruct the OWNER'S personnel for not less than [] days.

PART 2 -- PRODUCTS

2.1 PUMP NAME: [] (P-[] through P-[])

- A. **General:** Progressive cavity pumps shall comply with the following requirements:

1. Operation (hours per day) - []
2. Drive - [Constant] [variable] speed

B. Operating Conditions:

1. Capacity (gpm) - []
2. NPSH available at suction (ft) - []
3. Pump head (TDH-ft) - []
4. Total discharge head (ft) - []
5. Liquid to be pumped - []
6. Specific gravity of liquid - []
7. Liquid temperature (degrees F) - []
8. pH of Liquid - []
9. Max pump speed (rpm) - []
10. Min. pump speed (rpm) - []
11. Max motor speed (rpm) - []
12. Min motor size (hp) - []

C. Pump Dimensions

1. Min size of suction flange (in) - []
2. Min size of dschrg. flange (in) - []
3. Flange rating (psi) - []

2.2 PUMP REQUIREMENTS

A. Construction: Progressive cavity pumps shall comply with the following requirements:

1. Pump body (with hand hole): Cast iron
2. Stator: Elastomer best suited for the application with minimum shore durometer hardness of [60] [].
3. Rotor: Chrome-plated tool steel with minimum plating Brinell hardness of 550.
4. Seal: ~~-Fresh water~~ flushed stuffing box per Section 11175, except use Teflon lantern ring, bronze, or 316 stainless steel split gland, Buna-N O-ring, outboard packing, and fit the impeller end of the packing with a SpiralTrac, Version P

packing protection system as manufactured by EnviroSeal Engineering Products, Ltd, Nova Scotia, Canada.

5. Shaft: Solid one-piece shaft through bearings and seal.
6. Shaft Sleeve: Type [316] [] stainless steel.
7. Bearings: Ball and tapered roller bearings designed for 60,000 hours L-10 life.
8. Joints: Grease-lubricated, sealed gear or pivot joints of chrome-alloy tool steel.
9. Connecting rod: Designed to maintain maximum angularity of 1.5 degrees.
10. [Water flush connection for rotor and seals:] [1/2-inch tapping in suction and in stuffing box, or seal with solenoid-operated water connection]
11. Pump base: Cast-iron or steel pan with drain.
12. Number of Stages: [one] [two] []

B. Motors and Drives: Motors and drives shall comply with the following:

1. [Direct drive with flexible coupling] [Belt drive with flexible coupling][Belt drive][with "Piggyback"] arrangement] [variable speed drive] with horizontal, energy efficient, heavy duty, electric motor, suitable for []-volt, []-phase, 60 Hz ac power. Where speed reduction is indicated, gear motors or gear reducers shall be used in accordance with AGMA 6019-E (Class II), or AGMA 6010-E, with a service factor of 1.25.

2.3 SPARE PARTS

- A. The WORK of this Section includes 2 stators and 1 rotor.

2.4 MANUFACTURERS

- A. Progressive cavity pumps shall be manufactured by one of the following (or equal):

Allweiler Pump, Inc.
Netzsch, Inc.
Robbins and Meyers (Moyno)

PART 3 -- EXECUTION

3.1 INSTALLATION

- A. Installation shall comply with Section 11175 and with sufficient space for withdrawal of the pump elements and for servicing without disturbing the drive and the piping.

**** END OF SECTION ****